

**WHAT IS CLAIMED IS:**

1. A card device, comprising:
  - a substrate having two long sides and two short sides; and
  - a sweep-type fingerprint sensor, which is embedded into the substrate and
- 5 has an exposed fingerprint sensing surface, wherein the sweep-type fingerprint sensor is disposed in a rectangular low-stress region having a dimension substantially smaller than or equal to 30 mm \* 22 mm, the shortest distance from the low-stress region to each of the long sides is substantially equal to 2 mm, and the shortest distance from the low-stress region to each of the short sides is
- 10 substantially equal to 2 mm.
2. The card device according to claim 1, wherein the rectangular low-stress region has the dimension substantially smaller than or equal to 22 mm \* 22 mm.
3. The card device according to claim 1, wherein the rectangular low-stress region has the dimension substantially smaller than or equal to 22 mm \* 14 mm.
- 15 4. The card device according to claim 1, wherein each of the short sides has a length substantially equal to 56 mm.
5. The card device according to claim 4, wherein each of the long sides has a length substantially equal to 86 mm.
6. The card device according to claim 1, wherein the fingerprint sensing
- 20 surface is configured such that a finger sweeps across it in a direction, which defines an angle with each of the long sides.
7. The card device according to claim 6, wherein the angle is substantially

equal to 90 degrees.

8. The card device according to claim 6, wherein the angle is substantially equal to 0 degrees.

9. The card device according to claim 6, wherein the angle is substantially  
5 equal to 45 degrees.

10. The card device according to claim 6, wherein the angle is substantially equal to that defined by a diagonal of the substrate and each of the long sides.

11. The card device according to claim 1, wherein:

a groove is formed on the substrate;

10 the sweep-type fingerprint sensor is located in the groove;

the groove is for guiding a finger to put therein and guiding the finger to sweep across the sweep-type fingerprint sensor.

12. The card device according to claim 11, wherein the fingerprint sensing surface is configured such that the finger sweeps across it in a direction, which  
15 defines an angle with each of the long sides.

13. The card device according to claim 12, wherein the angle is substantially equal to 90 degrees.

14. The card device according to claim 12, wherein the angle is substantially equal to 0 degrees.

20 15. The card device according to claim 12, wherein the angle is substantially equal to 45 degrees.

16. The card device according to claim 12, wherein the angle is substantially equal to that defined by a diagonal of the substrate and each of the long sides.